



## A National Marine Classification Standard

The Coastal and Marine Ecological Classification Standard (CMECS) provides a national framework for organizing information about coasts and oceans and their living systems. The six components of the classification standard represent the different aspects of the seascape (water column, geoform, substrate, biotic communities, biogeographic setting, and aquatic setting), starting with the broadest systems (marine, estuarine, and lacustrine) and narrowing to the most detailed physical and biological elements associated with a specific habitat type (biotic community).

Descriptive information such as salinity, turbidity, and percent cover can be added to the CMECS units through the use of modifiers. Mapping guidance and protocols, along with a dichotomous key, will be produced to support implementation of the standard.

The Federal Geographic Data Committee (FGDC) has endorsed CMECS as a national standard. Their consideration follows a long period of public review that included input from a wide variety of stakeholders.

### CMECS Benefits

- Data collected by different sensors and methods can be integrated into a single database.
- All the physical, biological, and chemical-forcing functions that collectively determine a habitat type can be captured.
- The system has the flexibility to accommodate new data acquisition technology.
- The structure allows new data to be added at any level.
- CMECS incorporates water column habitats and associated land form features of the coastal and marine environment. This multi-component approach allows end-users to evaluate environmental drivers that influence species distributions and conditions independent of the observation process.

### How Can It Be Used?

CMECS provides a structure for developing and synthesizing data so that ecosystems can be identified, characterized, and mapped in a standard way across regional and national boundaries. CMECS also supports status and trend monitoring activities, policy development, restoration planning, and fisheries management. The standard complements existing wetland and upland classification systems.



Nearly a decade of work has gone into developing CMECS. The National Oceanic and Atmospheric Administration, along with NatureServe, the U.S. Environmental Protection Agency, and the U.S. Geological Survey, have worked with hundreds of scientists and coastal managers to develop and test the standard. The testing process has included numerous projects in a variety of geographies.

### Project Cooperators

University of Rhode Island  
Massachusetts Division of Marine Fisheries  
South Florida Water Management District  
U.S. Army Corps of Engineers  
The Nature Conservancy  
Texas Parks and Wildlife Department  
Oregon Coastal Management Program

Virginia Institute of Marine Science  
University of Southern Mississippi  
National Park Service  
Florida International University  
University of Miami  
U.S. Fish and Wildlife Service  
Bureau of Ocean Energy Management,

### Applying the CMECS Standard

- **Cross-walk** your existing data into the CMECS framework to allow broader application of your results.
- **Use the CMECS standard** at the outset of a project to allow integration of data from multiple sources.
- **Propose new units** based on new data for incorporation into future revisions of the standard.
- **Share your experiences** in applying the standard with others.

For more information, visit [www.csc.noaa.gov/cmecs](http://www.csc.noaa.gov/cmecs)  
or contact [nos.csc.cmecs\\_ig@noaa.gov](mailto:nos.csc.cmecs_ig@noaa.gov).

